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Case 9860(2)

Claims:

1. Process for the gas-phase (co-)polymerisation of olefins in a fluidised bed reactor using a Ziegler-Natta type catalyst, said process comprising the addition into the reactor of an organoaluminium cocatalyst and of a monohalogenated hydrocarbon compound,
 - a. wherein the molar ratio of the monohalogenated hydrocarbon compound to the cocatalyst is comprised between 0.02 and 0.2, preferably between 0.02 and 0.15,
 - b. wherein the monohalogenated hydrocarbon compound is added to the reactor in an amount comprised between 0.1 to 40 moles of monohalogenated hydrocarbon compound per mole of transition metal of catalyst introduced into the reactor, preferably in a mole ratio comprised between 0.2 and 40, preferably 0.2 and 10, more preferably 0.25 and 5, and
 - c. wherein the monohalogenated hydrocarbon compound is n-butyl chloride.
2. Process according to the preceding claims wherein the Ziegler-Natta type catalyst is a silica supported Ziegler-Natta catalyst.
3. Process according to the preceding claims wherein the molar ratio of the monohalogenated hydrocarbon compound to the cocatalyst is maintained constant throughout the polymerisation.
4. Process according to any of the preceding claims wherein the sole or main olefin is either ethylene or propylene, and the optional comonomer is selected from but-1-ene, pent-1-ene, hex-1-ene, 4-methylpent-1-ene and oct-1-ene.
5. Process according to any of the preceding claims wherein the monohalogenated hydrocarbon compound is diluted in a conventional diluent like butane, pentane or hexane in an amount comprised between 0.001 and 2 mole of monohalogenated hydrocarbon compound per l of diluent.

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6. Process according to any of the preceding claims wherein the monohalogenated hydrocarbon compound is not added in admixture with the catalyst.
7. Process according to any of the preceding claims wherein the catalyst is a non-prepolymerized catalyst.
- 5 8. Process according to claim 7 wherein the catalyst is a titanium magnesium silica supported catalyst which is directly introduced into the reactor.

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